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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/826,862 | 04/06/2001 | Shinji Kuga | 0505-0813P | 3205 |

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EXAMINER

MCANULTY, TIMOTHY P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3682

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,862

Applicant(s)

KUGA ET AL.

Examiner

Timothy P McNulty

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Warnings

1. Applicant is advised that should claim 3 be found allowable, claim 4 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Izumi.

Ishihara discloses in figure 4 a V-belt transmission comprising a crankshaft 56; a driving pulley having a fixed pulley half 58 fixed to said crankshaft; a axially movable pulley half 68; a plurality of cooling fins 64 located on said fixed pulley half; an outside air inlet port (un-referenced) arranged opposite said fins; a short sleeve (un-referenced); a ramp plate 76; and a long sleeve 74; wherein said driving pulley coupled to a driven pulley so as to transmit a driving force to said driven pulley wherein the driven pulley is connected to an axel 148 of a wheel drive section of the transmission via a driven shaft 94, a counter shaft 150, and a plurality of transmission gears 140. Ishihara does not disclose said fixed pulley half being fixed to said

Art Unit: 3682

crankshaft by a bolt. However, Izumi teaches in figure 4, a fixed pulley half of a variable radius pulley fixed to a shaft with a bolt. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Ishihara in view of the teachings of Izumi to fix the fixed pulley half to the crankshaft by a bolt engaged in a bolt hole within the crankshaft to provide a greater thread engagement without increasing the overall length of the crankshaft.

Regarding claims 6 and 18, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a chamfer on the outer edge of the bolt hole as it is old and well known in the art to provide a chamfer on a bolt hole to provide proper thread alignment.

Response to Arguments

5. Applicant's arguments filed on 15 March 2002 in Paper No. 5 have been fully considered but they are not persuasive. Izumi clearly teaches the use of a threaded bolt to fix a pulley half to a shaft. Although Izumi discloses the threaded bolt fixing a pulley half to a transmission main shaft, based the teachings of Izumi, it would have been obvious to one of ordinary skill in the art to use a threaded bolt to fix pulley half to a crankshaft. The teaching of Izumi is not merely the use of a threaded bolt to fix a pulley half to a transmission main shaft but more generally the use of a threaded bolt to fix a pulley half to any shaft. Additionally, disregarding considerations for available space and cost of manufacturing a threaded bolt cooperating with female threads and a nut cooperating with male threads are art recognized equivalents.

6. Applicant contends that the amendment corrects claim 4, however, claim 4 remains a verbatim copy of claim 3 both of which depend from claim 1.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to V-belt transmissions in general:

U.S. Patent No. 4,178,808 to Bacher

U.S. Patent No. 4,345,664 to Anno et al.

U.S. Patent No. 4,515,575 to Kinbara et al

U.S. Patent No. 4,712,629 to Takahashi et al.

U.S. Patent No. 4,671,782 to Ochiai et al.

JP 2-180344

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Art Unit: 3682

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00) alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7687 for regular communications and 703.305.7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

tpm 
May 10, 2002


Thomas R. Hannon
Primary Examiner